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deer

GLEN C. SANDERSON

JOB COMPLETION REPORT

INVESTIGATIONS PROJECTS

As Required By

FEDERAL AID IN WILDLIFE RESTORATION ACT

COLLECTION AND ANALYSIS OF 1955 DEER HARVEST DATA

Pittman-Robertson Project W-15-R

Job No. 4-55

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Report for the period

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COLLECTION AND ANALYSIS OF 1955 DEER HARVEST DATA

By Bill Bailey

ABSTRACT

Data were obtained on deer harvested during 1955 by examination of animals at established check stations. The 1955 deer kill in the four management units was 4300 animals. Over-all hunting success was 77.2 percent as compared to 68.9 percent in 1954. The highest hunting success was realized in area II where 84.5 percent of the permittees were successful.

Of 3066 mule deer killed in the panhandle, 52.2 percent were males. The sex ratio of 810 mule deer fawns taken in western Nebraska was 131 males : 100 females. Species composition of the harvest was about the same as for 1954 in management areas I, II and III but the proportion of white-tailed deer decreased considerably in area IV. Approximately 73 percent and 80 percent of the total harvest was taken during the first two days in areas I and II respectively.

Analysis of the age composition of female mule deer in western Nebraska suggested that area II has a higher rearing success than area I. Age composition also indicated an increment to the mule deer herd of western Nebraska of at least 25 percent.

Weight data for deer harvested during 1955 are presented and discussed. Data on antler measurements and distribution of kill within the open areas are also presented.

JOB COMPLETION REPORT

INVESTIGATIONS PROJECT

State of: Nebraska

Project No. W-15-R Job No. 4-55

Title of Job: Collection and Analysis of 1955 Deer Harvest Data.

Objectives: To obtain information pertaining to the following:
1. Number of deer harvested and the hunter success.
2. Sex and species composition of the kill.
3. Day of kills.
4. Age composition of the kill.
5. Physical condition of the deer harvested.
6. Location of kills within each management unit.

General: The 1955 deer season marked the seventh consecutive open season in western Nebraska and the third consecutive open season in eastern and north central Nebraska.

The area open to hunting was divided into four management units. As in past seasons, distribution and numbers of hunters were controlled by issuing only a limited number of permits for each unit. Areas open to hunting were as follows:

Area I: Included all of Banner, Garden, Morrill and Scottsbluff counties.

Area II: Included all of Box Butte, Dawes, Sheridan and Sioux counties.

Area III: Included all of Brown, Cherry, Hooker, Keya Paya and Rock counties.

Area IV: Included all of Boyd, Cedar, Dakota, Dixon, Holt and Knox counties.

Hunting was not permitted on any of the state or federal refuges and sanctuaries.

Permits were allotted by management units as follows: Area I, 2000; Area II, 3000; Area III, 750; and Area IV, 500. There were apparently too few eligible applicants in 1955 to absorb all the permits allotted, which was undoubtedly due to a state statute limiting a deer hunter to only one permit for each three consecutive seasons. The number of permits sold for each management unit was as follows: Area I, 1498; Area II, 2821; Area III, 750; and Area IV, 498.

Permittees were allowed to harvest deer of either sex in areas I and II throughout the open season which extended

from November 29 through December 6. Hunters were restricted to bucks having a fork on at least one antler in areas III and IV. The length of season in areas III and IV was five days, extending from December 9 through December 13 inclusive. Legal shooting hours in all areas were from one-half hour before sunrise to one-half hour after sunset.

Techniques Used: Check stations were established at strategic points throughout the areas open to deer hunting. Each station was operated by a game biologist who collected all biological information. Local personnel were hired to assist in handling deer during the "rush" hours.

Each successful hunter was required to present the animal to personnel at check stations to have it officially sealed and the permit cancelled. When deer were checked, technicians aged, recorded time and location of kill and took physical measurements of the animal. Records were kept on prepared data sheets.

Each technician was supplied with an aging board with deer jaws depicting ages from fawn to 7½ years. Severinghaus' method was used for obtaining age data.

Findings: Number of Deer Harvested:

The number of deer harvested during 1955 and the rate of hunter success are summarized in Table I.

Table I: NUMBER OF DEER HARVESTED AND HUNTER SUCCESS FOR THE VARIOUS MANAGEMENT AREAS FOR 1955

Management Area	No. Permits Issued	No. Deer Sealed at Checking Stations	Hunter Success* (Percent)	
			1955	1954
1	1498	1247	83.3	68.3
2	2821	2383	84.5	76.5
3	750	508	67.7	75.4
4	498	162	32.5	41.0
TOTALS	5597	4300	77.2	68.9

* Expressed as the percent of successful permittees.

In management areas I and II the hunter success (expressed as the percentage of successful permittees) was higher than in 1954; however, most of the difference can be attributed to the difference in seasons for the two years. During 1954, hunters were restricted to bucks with a fork on at least one antler with the exception of the last day when they were allowed to harvest deer of either sex. Permittees were allowed to harvest deer of either sex throughout the eight day season in 1955.

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			1955	1954
1	1499	1247	83.3	66.3
2	2821	2393	84.5	70.5
3	750	502	67.7	75.4
4	496	160	32.5	42.0
TOTALS	5597	4300	77.2	66.9

* Expressed as the percent of successful permittees.

In management areas I and II the hunter success (expressed as the percentage of successful permittees) was higher than in 1954; however, most of the difference can be attributed to the difference in seasons for the two years. During 1954, hunters were restricted to bucks with a fork on at least one antler with the exception of the last day when they were allowed to harvest deer of either sex. Permittees were allowed to harvest deer of either sex throughout the eight day season in 1955.

Hunter success in management areas III and IV was lower during 1955 than it was in 1954. This was due primarily to adverse hunting conditions encountered by the hunters. Blowing and drifting snow hampered the movements of hunters throughout the five day season and some areas were completely inaccessible.

Sex Composition of the 1955 Harvest:

Sex composition of the kill in areas I and II is shown in Table II.

Table II: SEX COMPOSITION OF THE MULE DEER HARVEST IN MANAGEMENT AREAS I AND II FOR THE 1955 SEASON

Management Area	BUCKS		DOES		TOTAL SEXED
	Number	% of total sexed	Number	% of total sexed	
I	617	49.9	619	50.1	1236
II	983	53.7	847	46.3	1830
TOTALS	1600	52.2	1466	47.8	3066

Sex ratios of mule deer fawns killed in the two management areas of the panhandle heavily favored males. Of 810 fawns killed in management areas I and II, 459 were males and 351 were females making a fawn sex ratio of 131 males : 100 females and in area II, for 503 fawns, it was 135 males : 100 females. The kill of fawns on the closing day of the 1954 season did not indicate sex ratios so distorted as in 1955 although the size of sample was not quite so large in 1954. Of 243 mule deer fawns examined during 1954, 125 were males and 118 were females making a sex ratio of 106 males : 100 females.

Species Composition of the 1955 Harvest:

Species composition of the 1955 harvest is summarized in Table III.

Table III: SPECIES COMPOSITION OF THE 1955 HARVEST IN THE VARIOUS MANAGEMENT AREAS IN 1955 AS COMPARED TO 1954

Year		Management Area							
		I		II		III		IV	
		Mule Deer	White-tailed	Mule Deer	White-tailed	Mule Deer	White-tailed	Mule Deer	White-tailed
1954	No. killed	1019	5	1133	14	338	39	44	161
	% of total kill	99.5	0.5	98.8	1.2	89.6	10.4	21.4	78.6
1955	No. killed	1242	5	2321	42	459	49	66	93
	% of total kill	99.6	0.4	97.4	2.6	91.1	8.9	41.5	58.5

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Sex ratios of mule deer fawns killed in the two management areas of the peninsula heavily favored males. Of 810 fawns killed in management areas I and II, 459 were males and 351 were females making a fawn sex ratio of 131 males : 100 females and in area II, for 505 fawns, it was 145 males : 100 females. The kill of fawns on the closing day of the 1954 season did not indicate sex ratios as distorted as in 1955 although the size of sample was not quite as large in 1954. Of 243 mule deer fawns examined during 1954, 125 were males and 118 were females making a sex ratio of 106 males : 100 females.

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	I		II		III		IV	
	Mule Deer	White-tailed Deer	Mule Deer	White-tailed Deer	Mule Deer	White-tailed Deer	Mule Deer	White-tailed Deer
1954 No. killed	1019	5	1253	14	136	39	44	101
% of total kill	99.5	0.5	98.8	1.2	89.6	10.4	23.4	78.6
1955 No. killed	1242	5	2121	42	659	43	68	95
% of total kill	99.6	0.4	97.8	2.2	93.3	6.9	41.5	58.5

Species composition of the kill in management areas I, II and III remained about the same as for 1954; however, the percentage of white-tailed deer in management area II increased from 1.2 in 1954 to 2.6 in 1955. Most of the increase in white-tailed deer for area II was in the Rushville region where 4.2 percent of the animals examined at the check station were whitetails as compared to 2.7 percent in 1954.

Species composition of the kill changed considerably in management area IV. The percentage of mule deer in the harvest rose from 21.4 percent in 1954 to 41.5 percent in 1955. Although the sample size is small, this probably indicates that a higher proportion of mule deer occurred in the 1955 population as compared to that of 1954. A shift of hunting pressure from the east to Holt and Boyd counties could result in an increased number of mule deer being represented in the harvest; however, examination of Table IV indicates that a shift in hunting pressure was not responsible for the change in species composition. If this were responsible, it would be expected that the species composition would remain about the same in these areas, but there was also an increase in the proportion of mule deer killed in Holt, Boyd and Knox counties coupled with a decrease in kill from Cedar, Dixon and Dakota counties where the population is almost entirely white-tailed deer.

Table IV: COMPARISON OF THE SPECIES COMPOSITION OF THE 1954 AND 1955 HARVESTS IN AREA IV BY REGIONS AS INDICATED BY CHECKING STATIONS AT WHICH THE ANIMALS WERE EXAMINED

Checking Station	1954					1955*				
	Mule Deer		White-tailed		TOTAL	Mule Deer		White-tailed		TOTAL
	No.	% of total	No.	% of total		No.	% of total	No.	% of total	
Butte	7	23.3	23	76.7	30	24	57.2	18	42.8	42
O'Neill	29	69.1	13	30.9	42	33	84.6	6	15.4	39
Center	8	15.1	45	84.9	53	9	34.4	23	65.6	32
Hartington	0	-	30	100.0	30	0	-	12	100.0	12
Ponca	0	-	30	100.0	30	0	-	20	100.0	20
So.Sioux City	0	-	20	100.0	20	0	-	14	100.0	14
	44	21.5	161	78.5	205	66	41.5	93	58.5	159

The change in species composition could reflect mortality of white-tailed deer in Area IV. Numerous reports of white-tailed deer dying in the northeastern counties during the late summer of 1955 were received by Game Commission personnel in District 3 (northeast Nebraska) and by check station personnel. None of the reports could be verified

positively; however, the change in species composition tends to support the reports and would indicate that there may have been considerable mortality in the white-tailed deer herd of the Upper Missouri and Niobrara Rivers.

Day of Kill:

The pattern of the daily kill for each management area is depicted graphically in Figure 1. Additional data are given in Tables II and III of the appendix.

Examination of Figure 1 reveals that most of the kill occurred during the first two days of the season and more than 50 percent of the animals were taken on the first day in areas I and II. By the close of the second day, approximately 80 percent of the total harvest had been taken in area II and about 73 percent in area I. The proportion of kill following the first day did not drop so sharply in areas III and IV as it did in the two western areas. Most of the difference in the daily kill pattern can probably be attributed to the "bucks only" season in areas III and IV as opposed to "either sex" in the two western areas. It may also reflect the adverse hunting conditions caused by drifting snow in the sandhills and Upper Missouri whereas the hunters encountered no snow during the first three days of the western season.

Age Composition:

Age composition of the harvest of mule deer bucks is summarized in Figure 2. The data for does are depicted in Figure 3. Additional data are given in Tables IV and V of the appendix. Table VI of the appendix shows the age composition of white-tailed bucks taken in areas III and IV.

Age composition data for bucks harvested in the two western areas (I and II) in 1955 are not entirely comparable to those of 1954 because of different type harvest methods in the two open seasons. Since hunters were allowed to harvest either sex throughout the season in 1955 as opposed to only one day of either sex harvest in 1954, the proportion of fawns represented in the 1955 harvest increased and the proportion of older deer decreased. If, however, the fawns are excluded from the harvest of both years, the age composition of the buck harvest in 1955 follows much the same pattern as that of 1954. Disregarding fawns to make the data comparable, the percentage of the 1½ year age class in area I would be 61.0 percent in 1955 as compared to 57.2 percent in 1954. In area II, the proportion of kill comprised by the 1½ age class would be 57.3 percent in 1955 and 57.0 percent in 1954.

The number of mule deer aged in area IV provided a sample too small to obtain a reliable picture of age distribution.

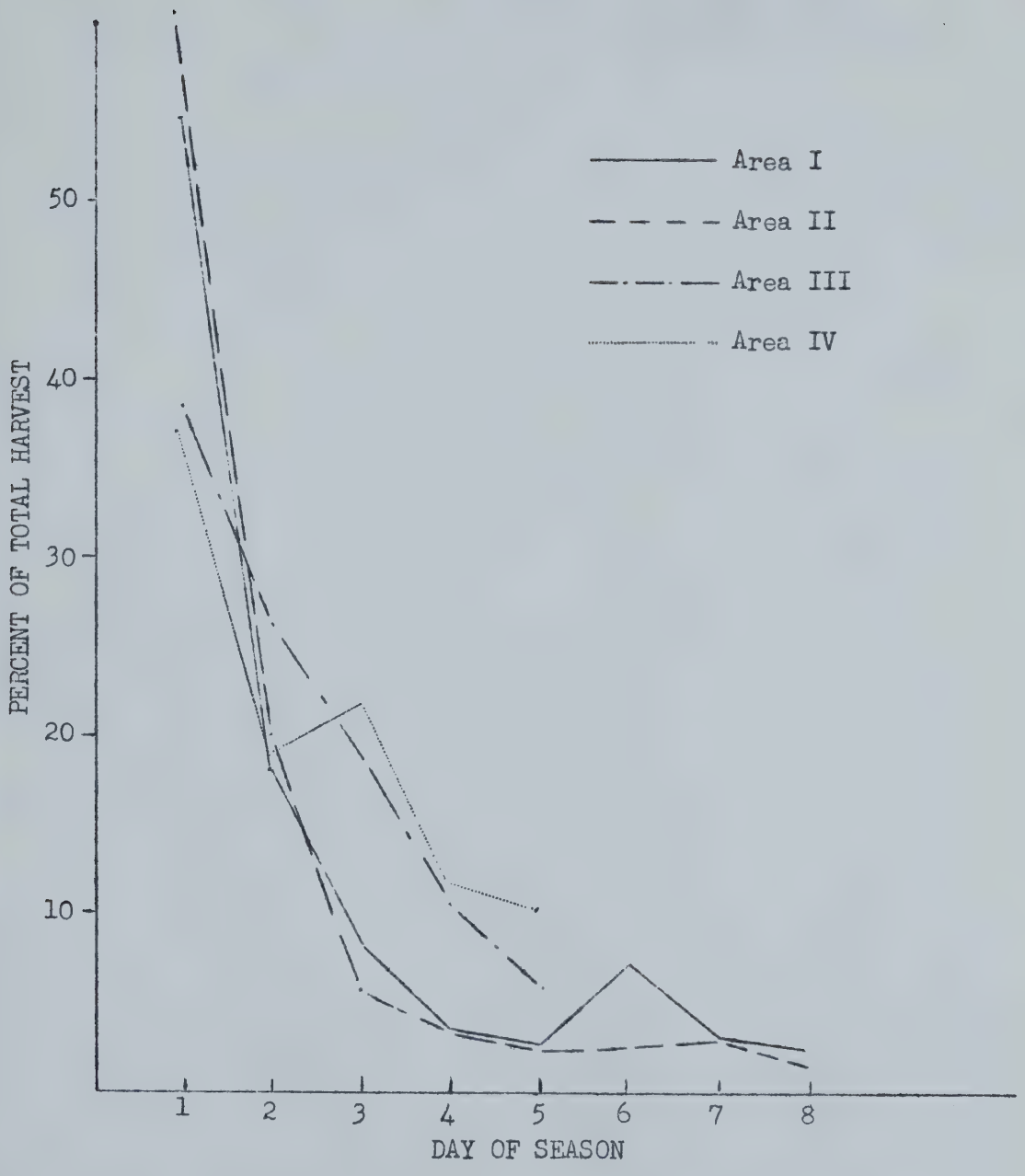

Figure 1: DAY OF KILL IN THE MANAGEMENT AREAS OPEN TO DEER HUNTING IN 1955.

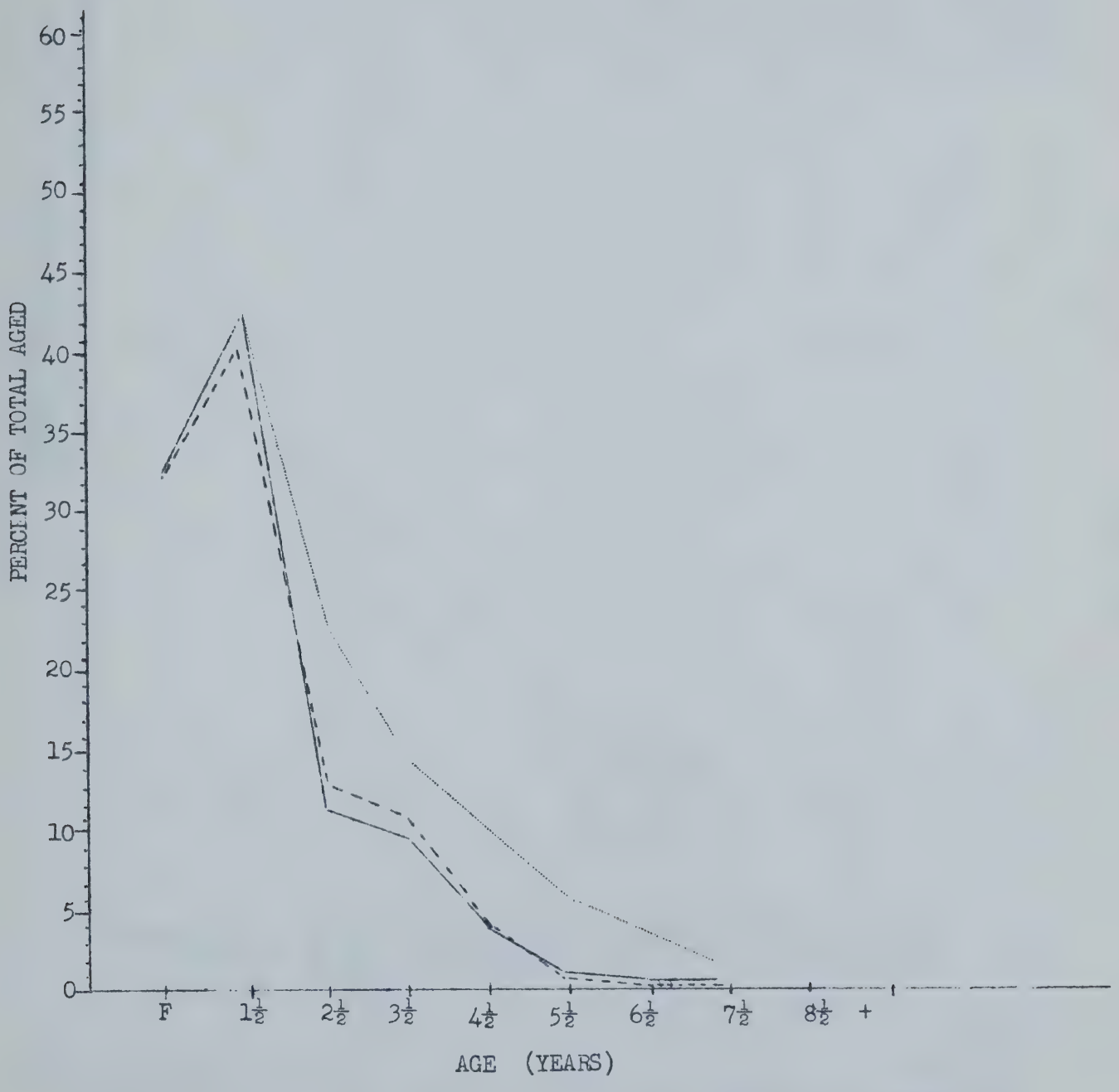

Figure 2: AGE COMPOSITION OF MULE DEER BUCKS TAKEN DURING THE 1955 DEER SEASON IN MANAGEMENT AREAS I, II, AND III.

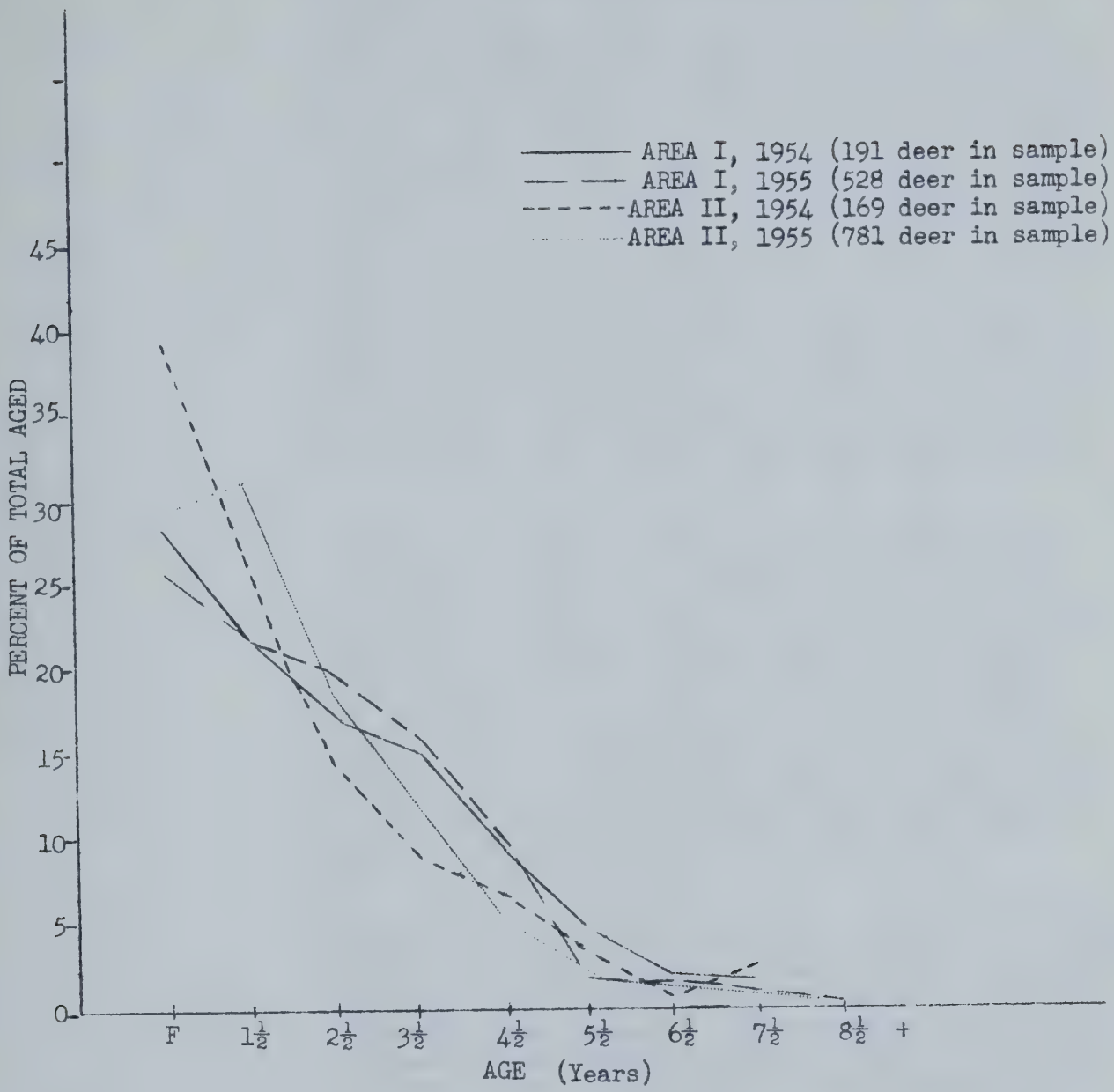

Figure 3: COMPARISON OF AGE COMPOSITION OF FEMALE MULE DEER HARVESTED IN MANAGEMENT AREAS I AND II FOR THE OPEN SEASON OF 1954 AND 1955.

Of those aged, however, the majority (66.7 percent) were in the 1½ year age class.

The number of animals represented in the samples of whitetailed deer in areas III and IV was also small.

Gill[1] has demonstrated that the slope of a kill-curve or the age composition for female deer reflects rearing success and not mortality on the principle that "random removals from a population of any sort will not change the composition of the remaining population except by chances." From this premise it may be possible to obtain a picture of the comparative rearing success in female deer in areas I and II if the removal of deer by hunters was entirely at random. Random removal, as will be pointed out, is not entirely a true assumption in western Nebraska since the data indicate there was some selectivity for does larger than fawns on the first day of the season; however, for age classes other than fawns the removal probably approximated random removal since it is doubtful that hunters could distinguish a 1½ year old doe from a female of any older age class.

The age composition has been depicted graphically in Figure 3 for female deer harvested from the two management areas of western Nebraska in both 1954 and 1955. Although the sample was not so large in 1954 as in 1955, examination of Figure 3 reveals that the age composition in both areas followed about the same pattern for the two years. In both 1954 and 1955, the proportion of young animals was higher and the proportion of old animals lower in area II than in area I. If the removal of deer by hunters approximated randomness, the rearing success and productivity of female mule deer would appear to be greater in area II than in area I.

Comparison of the age composition of mule deer harvested on the opening day of the 1955 season with those harvested in the succeeding seven days indicated there was probably some hunter selectivity for animals larger than fawns on the first day (Table V). The change in age composition followed the same general pattern in both of the western management areas. The number of fawns represented in the harvest was proportionately less on the first day than on the succeeding seven days of the season. Hunter selectivity seems to be the most logical factor responsible for the change. There is probably some differential vulnerability to the hunter but this could be expected to function on the opening day as well as during the latter part of the season.

(1) Gill, John, 1953. Remarks on the analysis of kill-curves of female deer. Mimeo. 9th Northeast Section Wildlife Conf., Bretton Woods, N. H., September.

TABLE V: COMPARISON OF KILL BY AGE CLASSES ON FIRST DAY OF 1955 OPEN SEASON WITH THE SUCCEEDING SEVEN DAYS OF HUNTING

AREA I

Day of kill		BUCKS				DOES			
		F	1½	2½+	Total Aged	F	1½	2½+	Total Aged
Nov. 29	No. Aged	83	135	90	308	64	67	141	272
	%	27.0	43.8	29.2		28.5	24.6	51.9	
Nov. 30-Dec. 6	No. Aged	88	94	55	237	73	48	135	256
	%	37.1	39.7	23.2		28.5	18.7	52.7	
AREA II									
Nov. 29	No. Aged	156	244	166	566	116	149	183	448
	%	27.6	43.1	29.3		25.9	33.3	40.8	
Nov. 30-Dec. 6	No. Aged	133	124	99	356	98	91	143	332
	%	37.4	34.8	27.8		29.5	27.4	43.1	

It is probable that the age composition as given for the 1955 harvest is slightly high for the fawn class. Many deer presented at check stations had frozen jaws and could not be aged by the teeth. It is likely that most fawns could be aged by general appearance and body size whereas older deer with frozen jaws could not be aged by superficial examination. When the number of mule deer fawns in the area I harvest is related to the total harvest of 1236 animals, 24.8 percent were fawns. Similarly, 27.4 percent were fawns in area II. From these data the annual increment to the fall population appears to be at least 25 percent of the spring population. This can be considered a minimum estimate since hunter selectivity on the opening day tended to reduce the representation of fawns in the harvest from that which could be expected from a truly random harvest.

Age composition of the harvest of mule deer bucks in management area III followed the same pattern as established during the first three years of deer harvesting in western Nebraska. The proportion of the 1½ year age class represented in the harvest increased with a resultant decrease in the older age classes. In 1955, 42.1 percent of the harvest was from the 1½ year age class whereas 36.3 percent were in the 1½ year age class in 1954.

Physical Condition of Deer Harvested During 1955

Hog-dressed Weights

Mean hog-dressed weights of mule deer bucks harvested during 1955 are shown in Table VI. Table VII summarizes the weight data for mule deer does. Additional data are given for mule deer in Tables VII and VIII of the appendix. Weights of white-tailed bucks are shown in Table VIII.

Area I

In general, the physical condition of mule deer harvested in area I in 1955 was about the same as for those harvested in 1954. Weights of mule deer bucks in the 1½ year age class followed the same pattern as in 1954. The heaviest 1½ year old males were checked at the Oshkosh and Bridgeport check stations while those checked at Gering and Harrisburg were below average in weight. Yearling males checked at Harrisburg were 5.9 pounds below the over-all average. Most of the deer checked at Gering and Harrisburg were taken from the Wildcat Hills while most of those checked at Bridgeport and Oshkosh were killed along the North Platte River, river breaks and the table lands.

Area II

In area II, male fawns and 1½ year old males averaged 4.4 and 3.5 pounds less respectively in 1955 than in 1954.

The weight pattern by check stations again followed the same pattern as in 1954. Male fawns and 1½ year old bucks examined at Harrison and Crawford were below average in weight with the heaviest deer being recorded at Hemingford and Chadron.

Area III and IV

Weights of mule deer bucks in areas III and IV were about the same or slightly in excess of those weighed in 1954.

In area III, the mean weight of 1½ year old white-tailed bucks in the harvest dropped from 124.5 pounds in 1954 to 118.3 pounds in 1955. For the 1½ year age class in area IV, the mean weight was 17.5 pounds less.

Antler measurements:

Antler measurements for deer harvested in 1955 are shown in Tables IX, X, XI and XII of the appendix.

Distribution of Kill:

The locations of kills as reported by hunters within the various management units are presented on maps in the

Table VI: COMPARISON OF MEAN WEIGHTS OF HOG-DRESSED MULE DEER BUCKS HARVESTED IN 1955 TO THOSE HARVESTED IN 1954

Management Area	Year		AGE CLASS					
			Fawn	1½	2½	3½-4½	5½-6½	7½-7½ plus
I	1955	Number	114	175	51	56	10	1
		Range	42-85	58-142	94-169	82-165	103-198	-
		Mean Wt.	64.2	104.4	132.6	149.9	158.9	172.0
	1954	Number	56	287	98	113	23	6
		Range	50-90	79-157	94-186	101-205	131-220	157-194
		Mean Wt.	67.0	105.6	125.8	149.9	166.1	161.3
II	1955	Number	129	197	66	90	8	5
		Range	39-79	57-131	109-169	87-219	162-204	157-191
		Mean Wt.	61.6	102.0	132.3	150.6	181.8	164.9
	1954	Number	37	324	127	126	23	8
		Range	52-101	76-138	106-169	103-197	108-231	127-168
		Mean Wt.	66.0	105.5	131.4	150.2	166.4	171.3
III	1955	Number		107	71	66	28	7
		Range		86-137	111-162	132-193	116-187	127-168
		Mean Wt.		104.4	132.6	156.0	163.1	156.1
	1954	Number		73	37	69	27	15
		Range		82-138	102-170	120-197	144-206	135-194
		Mean Wt.		103.7	120.7	155.9	170.0	160.6
IV	1955	Number		12	4	9	2	0
		Range		90-132	128-134	131-178	180-205	-
		Mean Wt.		107.9	130.5	146.8	181.5	-
	1954	Number		25	1	8	3	1
		Range		84-124	-	120-190	173-182	-
		Mean Wt.		104.1	133.0	157.5	178.7	145.0

Table VII: COMPARISON OF MEAN WEIGHTS OF HOG-DRESSED MULE DEER DOES HARVESTED IN 1955 TO THOSE HARVESTED IN 1954

Management Area	Year		AGE CLASS					
			Fawn	$1\frac{1}{2}$	$2\frac{1}{2}$	$3\frac{1}{2}$-$4\frac{1}{2}$	$5\frac{1}{2}$-$6\frac{1}{2}$	$7\frac{1}{2}$-$7\frac{1}{2}$ plus
II	1955	Number	92	95	85	99	17	9
		Range	37-98	56-114	65-126	64-144	87-128	85-112
		Mean Wt.	60.0	93.5	102.5	102.6	104.2	101.8
	1954	Number	40	40	29	39	14	4
		Range	46-87	72-109	75-123	86-136	94-123	85-111
		Mean Wt.	59.8	90.5	100.6	103.0	107.9	99.0
II	1955	Number	105	123	87	72	18	9
		Range	36-86	75-118	78-127	86-124	93-129	83-128
		Mean Wt.	58.6	92.7	100.5	106.2	105.8	106.5
	1954	Number	35	33	20	20	2	4
		Range	43-85	68-111	78-130	86-132	92-118	102-134
		Mean Wt.	60.2	92.0	104.8	102.5	105.0	113.2

Table VIII: COMPARISON OF MEAN WEIGHTS OF WHITETAIL BUCKS HARVESTED IN 1955 TO THOSE HARVESTED IN 1954

Management Area	Year	Age Class														
		$1\frac{1}{2}$			$2\frac{1}{2}$			$3\frac{1}{2}$-$4\frac{1}{2}$			$5\frac{1}{2}$-$6\frac{1}{2}$			$7\frac{1}{2}$-$7\frac{1}{2}$ plus		
		No.	Range	Mean Wt.	No.	Range	Mean Wt.	No.	Range	Mean Wt.	No.	Range	Mean Wt.	No.	Range	Mean Wt.
III	1955	8	106-130	118.3	7	125-162	143.4	9	139-197	171.5	2	116-160	160.0	-	-	-
	1954	8	108-134	124.5	5	103-141	133.0	13	151-203	174.1	3	162-197	181.0	2	197-211	204.0
IV	1955	24	76-158	115.1	16	129-160	146.3	19	135-207	166.8	1	-	172.0	-	-	-
	1954	44	90-163	132.6	28	105-178	143.4	39	124-216	169.1	12	139-212	177.0	5	186-206	195.6

appendix. Figures 1, 2 and 3 show the location of kills in management area I; figures 4, 5 and 6, kills in area II; figure 7, kills in area III; and figure 8, kills in area IV. Data for Sheridan county are not complete.

Summary:

During 1955, 4300 deer were harvested in the four management areas open to deer hunting. Over-all hunting success (expressed as percentage of permittees who were successful) was 77.2 percent as compared to 68.9 percent in 1954. The greatest hunting success was in area II where 84.5 percent of the permittees were successful.

Sex composition of the harvest in the two western areas is presented. The sex ratio of 810 mule deer fawns killed in the panhandle was 131 males:100 females.

Species composition of the kill in management areas I, II and III remained about the same as in 1954. In area IV the species composition changed considerably and the proportion of white-tailed deer decreased from that of 1954. The change in species composition could reflect mortality of white-tailed deer in area IV.

Data on the daily kills in each management area are presented. Approximately 80 percent of the total harvest in area II had been taken by the close of the second day. About 73 percent were killed during the first two days in area I.

Age composition of mule deer bucks killed in areas I and II followed about the same pattern as in 1954. The proportion of $1\frac{1}{2}$ year old mule deer bucks represented in the kill in area III increased over that of 1954, following the pattern established during the first three years of deer harvesting in western Nebraska.

Age composition of female mule deer killed in areas I and II indicated that area II may have a higher rearing success with resultant greater productivity than area I. It also suggests an annual increment of at least 25 percent to the mule deer herds in western Nebraska.

Comparison of age composition of mule deer killed on the opening day of the season with those killed on the succeeding seven days in the panhandle indicated there was hunter selectivity for animals larger than fawns on the first day.

Data on weights of deer harvested in each management area are presented and discussed. Data on antler measurements are also given in the appendix.

Distribution of kill within the areas open to hunting is presented on maps in the appendix.

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Date: March 1, 1956

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A P P E N D I X

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Table I: Numbers Of Deer Sealed At the Various Checking Stations During 1955

Areas I and II

Checking Station	November		December						Totals
	29	30	1	2	3	4	5	6	
Harrisburg	79	45	20	10	2	8	2	4	170
Gering	163	121	66	16	10	32	17	25	450
Bridgeport	155	91	43	24	23	35	12	11	394
Oshkosh	107	64	19	11	5	21	18	7	252
Harrison	82	48	28	17	2	9	0	4	190
Crawford	313	283	141	41	32	14	28	35	887
Chadron	196	123	50	24	18	6	29	19	465
Rushville	163	133	79	41	10	28	28	41	523
Hemingford	120	105	33	8	2	12	12	7	299
Totals	1378	1013	479	192	104	165	146	153	3630

Areas III and IV

Checking Station	December					Totals
	9	10	11	12	13	
Valentine	44	27	37	45	14	167
Mullen	10	10	7	2	12	41
Cody	21	18	31	16	7	93
Ainsworth	20	22	25	16	23	106
Bassett	21	18	17	3	8	67
Springview	8	7	5	9	5	34
Butte	10	5	8	7	13	43
O'Neill	7	11	7	4	12	41
Center	6	7	3	5	11	32
Hartington	1	4	0	3	4	12
Ponca	4	3	4	4	5	20
So. Sioux City	3	2	1	0	8	14
Totals	155	134	145	144	122	670

Table II: DAY OF MULE DEER KILLS AND SEX RATIOS OF ANIMALS HARVESTED FOR EACH DAY OF THE OPEN SEASON IN MANAGEMENT AREAS I AND II.

Management Area I

Day	Bucks	Does	Total	Percent of Season's Kill	Sex Ratio Males:Females
Nov. 29	362	316	678	54.8	115:100
30	102	122	224	18.1	83:100
Dec. 1	46	56	102	8.3	82:100
2	20	25	45	3.6	80:100
3	17	14	31	2.5	121:100
4	44	44	88	7.1	100:100
5	15	23	38	3.1	65:100
6	11	19	30	2.4	58:100
Totals	617	619	1236	99.9	100:100

Management Area II

(Data from Hemingford, Harrison, Crawford, Gering and Bridgeport Stations)

Nov. 29	612	494	1106	60.4	124:100
30	189	177	366	20.0	107:100
Dec. 1	65	59	124	6.8	110:100
2	36	27	63	3.4	133:100
3	23	21	44	2.4	110:100
4	20	25	45	2.5	80:100
5	25	29	54	3.0	86:100
6	13	15	28	1.5	87:100
Totals	983	847	1830	100.0	116:100

Table III: DAY OF KILL AND SPECIES COMPOSITION OF 1955 HARVEST IN MANAGEMENT AREAS III AND IV

Area III

Day of Kill	Mule Deer	White-Tailed	Total Kill	Percent of Total Kill
Dec. 9	180	14	194	38.6
10	110	21	131	26.1
11	86	9	95	18.9
12	50	3	53	10.5
13	28	2	30	6.0
Totals (1)	454	49	503	

Area IV

Day of Kill	Mule Deer	White-Tailed	Total Kill	Percent of Total Kill
Dec. 9	26	33	59	37.1
10	13	17	30	18.9
11	16	19	35	22.0
12	7	12	19	11.9
13	4	12	16	10.0
Totals (2)	66	93	159	

(1) Day of kill unknown for five mule deer making a total kill of 508.

(2) Three deer of unknown species making a total kill of 162.

Table IV: AGE COMPOSITION OF THE MULE DEER BUCK HARVEST FOR 1955.

Management Area		AGE (Years)									Total Aged
		Fawn	1½	2½	3½	4½	5½	6½	7½	8½+	
I	Number	170	229	60	52	18	6	5	5	-	545
	% of total aged	31.2	42.0	11.0	9.5	3.3	1.1	0.9	0.9	-	
II	Number	289	369	116	96	36	7	3	6	1	923
	% of total aged	31.4	39.9	12.6	10.4	3.9	0.8	0.3	0.6	0.1	
III	Number	-	162	87	55	40	20	14	7	-	385
	% of total aged	-	42.1	22.6	14.3	10.4	5.2	3.6	1.9	-	
IV	Number	-	34	4	5	5	3	-	-	-	51
	% of total aged	-	66.7	7.8	9.8	9.8	5.9	-	-	-	

Table V: AGE COMPOSITION OF THE MULE DEER DOE HARVEST FOR 1955.

Management Area		AGE (Years)									Total Aged
		Fawn	1½	2½	3½	4½	5½	6½	7½	8½+	
I	Number	137	115	106	84	51	11	11	10	3	528
	% of total aged	25.9	21.8	20.1	15.8	9.7	2.1	2.1	1.9	0.6	
II	Number	214	241	144	95	41	19	15	6	7	781
	% of total aged	27.4	30.8	18.4	12.2	5.2	2.4	1.9	0.8	0.9	

Table VI: AGE COMPOSITION OF THE WHITE-TAILED DEER BUCKS IN MANAGEMENT AREAS III AND IV FOR 1955

Management Area		AGE (Years)								Total Aged
		$1\frac{1}{2}$	$2\frac{1}{2}$	$3\frac{1}{2}$	$4\frac{1}{2}$	$5\frac{1}{2}$	$6\frac{1}{2}$	$7\frac{1}{2}$	$8\frac{1}{2}$+	
III	Number	16	9	7	4	1	-	-	-	37
	% of total aged	44.3	24.3	18.9	10.8	2.7	-	-	-	
IV	Number	27	24	13	8	-	1	-	-	73
	% of total aged	37.0	32.9	17.8	11.0	-	1.4	-	-	

Table VII: MEAN HOG-DRESSED WEIGHTS OF MULE DEER BUCKS IN AREA I

AGE	Checking Station											
	Harrisburg			Gering			Bridgeport			Oshkosh			Totals		
	No.	Range	$\bar{x}$	No.	Range	$\bar{x}$	No.	Range	$\bar{x}$	No.	Range	$\bar{x}$	No.	Range	$\bar{x}$
F	23	51-79	69.6	34	45-85	63.3	32	55-85	65.8	25	42-78	64.2	114	42-85	64.2
$1\frac{1}{2}$	21	58-120	98.5	53	81-120	102.3	50	75-31	106.5	51	72-142	106.4	175	58-142	104.4
$2\frac{1}{2}$	5	94-140	123.3	22	113-169	133.1	5	115-126	120.0	19	104-153	137.3	51	94-169	132.6
$3\frac{1}{2}$-$4\frac{1}{2}$	6	83-171	123.6	25	114-171	138.9	5	134-195	158.0	20	148-195	169.5	56	83-195	149.9
$5\frac{1}{2}$-$6\frac{1}{2}$	2	140-156	-	3	103-176	-	1	170-170	-	4	153-198	180.5	10	103-198	158.9
$7\frac{1}{2}$ plus							0	-	-	1	172-172	-	1	172-172	-

MEAN HOG-DRESSED WEIGHTS OF MULE DEER DOES IN AREA I

F	23	44-69	57.6	26	41-69	57.5	16	37-87	59.6	27	52-98	64.5	92	37-98	60.0
$1\frac{1}{2}$	14	56-112	93.3	36	73-114	90.4	24	78-108	96.5	21	72-108	96.0	95	56-114	93.5
$2\frac{1}{2}$	15	65-117	99.5	20	88-121	101.1	28	94-120	104.8	22	87-126	103.1	85	65-126	102.5
$2\frac{1}{2}$-$4\frac{1}{2}$	12	76-111	96.5	47	64-144	100.9	16	88-120	103.2	24	89-128	107.9	99	64-144	102.6
$5\frac{1}{2}$-$6\frac{1}{2}$	6	87-105	98.0	5	90-120	102.3	3	104-128	117.3	3	105-110	-	17	87-128	104.2
$7\frac{1}{2}$ plus	1	95-95	-	4	98-110	104.0	2	85-96	90.5	2	111-112	-	9	85-112	101.8

Table VIII: MEAN HOG-DRESSED WEIGHTS OF MULE DEER BUCKS IN AREA II

Age	Checking Station											
	Hemingford			Harrison			Crawford			Chadron			Totals		
	No.	Range	$\bar{x}$	No.	Range	$\bar{x}$	No.	Range	$\bar{x}$	No.	Range	$\bar{x}$	No.	Range	$\bar{x}$
F	21	39-77	64.4	15	40-76	58.7	75	45-79	60.7	18	51-76	65.0	129	39-79	61.6
$1\frac{1}{2}$	38	94-118	107.5	39	73-120	97.3	96	57-131	101.1	24	69-127	104.0	197	57-131	102.0
$2\frac{1}{2}$	10	113-138	125.2	11	121-142	130.4	38	109-169	134.1	7	113-148	136.8	66	109-169	132.3
$3\frac{1}{2}$-$4\frac{1}{2}$	25	120-205	148.8	16	138-162	151.8	34	123-195	156.1	15	87-219	147.0	90	87-219	150.6
$5\frac{1}{2}$-$6\frac{1}{2}$	1	198-198	-	4	167-188	177.2	2	180-204	192.0	1	162-162	-	8	162-204	181.8
$7\frac{1}{2}$-$7\frac{1}{2}$+				1	191-191	-	4	130-178	158.0				5	130-191	164.9

MEAN HOG-DRESSED WEIGHTS OF MULE DEER DOES IN AREA II

F	21	50-74	58.7	12	51-63	56.0	58	36-86	58.5	14	45-75	57.4	105	36-86	53.6
$1\frac{1}{2}$	25	79-116	92.3	13	80-104	90.8	68	75-111	91.5	17	85-118	99.9	123	75-118	92.7
$2\frac{1}{2}$	18	83-116	101.2	10	85-108	97.3	46	78-117	104.7	13	83-127	103.3	87	78-127	100.5
$3\frac{1}{2}$-$4\frac{1}{2}$	12	90-120	103.8	5	86-114	102.2	43	90-122	105.5	12	100-124	107.9	72	86-124	106.2
$5\frac{1}{2}$-$6\frac{1}{2}$	3	93-97	94.5	2	106-110	-	10	98-119	105.8	3	105-129	115.2	18	93-129	105.8
$7\frac{1}{2}$-$7\frac{1}{2}$+	1	102-102	-				8	83-128	107.0				9	83-128	106.5

Table IX: MEAN ANTLER MEASUREMENTS OF MULE DEER BUCKS HARVESTED IN AREA I DURING 1955

MEAN CIRCUMFERENCE OF ANTLERS (LEFT ANTLER ONLY)

CHECKING STATION	Age														
	1½			2½			3½			4½			5½ plus		
	No.	Range	X	No.	Range	X	No.	Range	X	No.	Range	X	No.	Range	Total
Harrisburg															
Gering	17	2½-4 1/8	2.78	9	3-4	3.48	6	3 3/8-4½	3.78	2	2 3/4-4 7/8	-			
Bridgeport	9	2½-3 3/8	2.75	3	3¼-4½	-	3	3 3/8-4 3/4	-						
Oshkosh	49	2-3 6/8	2.74	18	3¼-4½	3.59	14	4-5	4.47	7	4-5¼	4.75	5	4 7/8-5 3/4	26 5/8
AREA I	75	2-4 1/8	2.75	30	3-4½	3.58	23	3 3/8-5	4.24	9	2 3/4-5¼	4.53	5	4 7/8-5 3/4	26 5/8

MEAN LENGTH OF ANTLERS (LEFT ANTLER ONLY)

Harrisburg															
Gering	15	9½-18½	12.0	9	17-21	18.5	5	16 3/4-23½	19.6	2	13-23	18.0	-	-	-
Bridgeport	4	11-14	11.9	2	13½-16 3/4	-	3	16-20½	-						
Oshkosh	44	7½-16½	12.7	18	14-22	17.7	14	17¼-23 3/4	21.6	7	20-26¼	22.8	5	20¼-25¼	116
AREA I	63	7½-18½	12.5	29	14-22	17.8	22	16-23 3/4	20.6	9	13-26¼	21.6	5	20¼-25¼	116

MEAN NUMBER OF POINTS (LEFT ANTLER ONLY)

Harrisburg	18	1-4	2.11	4	2-4	-	1	4-4	-	3	3-4	-	1	4-4	1
Gering	50	1-4	2.14	24	2-4	3.37	26	2-6	3.77	6	2-4	3.39	5	1-4	13
Bridgeport	12	2-4	2.16	3	3-4	-	3	3-4	-						
Oshkosh*															
AREA I	80	1-4	2.14	31	2-4	3.32	30	2-6	3.73	9	2-4	3.89	6	1-4	17

*Brow tines were included as points in Oshkosh data. Oshkosh data on number of points excluded from Area I data.

Table X: MEAN ANTLER MEASUREMENTS OF MULE DEER BUCKS HARVESTED IN AREA II DURING 1955

MEAN CIRCUMFERENCE OF ANTLERS (LEFT ANTLER ONLY)

CHECKING STATION	AGE $1\frac{1}{2}$			$2\frac{1}{2}$			$3\frac{1}{2}$			$4\frac{1}{2}$			$5\frac{1}{2}$ plus		
	No.	Range	X	No.	Range	X	No.	Range	X	No.	Range	X	No.	Range	Total
Hemingford															
Harrison	30	2-3 1/8	2.71	11	$2\frac{1}{2}$-3 3/4	3.56	8	3 3/8-$4\frac{1}{4}$	3.77	6	$4\frac{1}{4}$-4 3/4	4.52	5	5 3/8-$5\frac{1}{2}$	24 1/8
Crawford	44	1 7/8-5 3/8	2.68	17	$3\frac{1}{4}$-4 1/8	3.59	17	$3\frac{1}{4}$-5 3/4	4.40	7	3 1/8-4 3/4	4.05	6	4 3/8-$5\frac{1}{2}$	30 1/8
Chadron															
AREA II	74	1 7/8-3 5/8	2.70	28	$2\frac{1}{2}$-4 1/8	3.58	25	3 3/8-5 3/4	4.15	13	3 1/8-4 3/4	4.28	11	4 3/8-$5\frac{1}{2}$	$54\frac{1}{4}$

MEAN LENGTH OF ANTLERS (LEFT ANTLER ONLY)

Hemingford															
Harrison	30	9-18 7/8	12.0	10	$10\frac{1}{2}$-20	17.0	9	$15\frac{1}{4}$-19 3/4	18.5	6	20-24	18.2	5	$25\frac{1}{4}$-$26\frac{1}{2}$	$121\frac{1}{4}$
Crawford	44		11.9	17	15-22 3/8	17.8	18	16 3/4-24 3/8	21.4	7	$15\frac{1}{2}$-$24\frac{1}{2}$	20.6	6	19 3/4-25 1/8	137 1/8
Chadron															
AREA II	72	6-18 7/8	12.0	27	$10\frac{1}{2}$-22 3/8	17.4	27	$15\frac{1}{4}$-24 3/8	20.5	13	$15\frac{1}{2}$-$24\frac{1}{2}$	20.8	11	19 3/4-$26\frac{1}{2}$	258 3/8

MEAN NUMBER OF POINTS (LEFT ANTLER ONLY)

Hemingford															
Harrison	28	1-4	2.21	12	2-6	3.50	9	3-4	3.56	6	3-5	4.17	5	4-5	22
Crawford	39	1-3	2.15	16	2-6	3.56	18	3-6	4.16	7	4-5	4.15	5	3-5	20
Chadron															
AREA II	67	1-4	2.18	28	2-6	3.54	27	3-6	3.96	13	3-5	4.15	10	3-5	42 ($\bar{x}$=4.2)

Table XI: ANTLER MEASUREMENTS OF MULE DEER BUCKS HARVESTED DURING 1955 IN MANAGEMENT AREA III (LEFT ANTLER)

Measurement		AGE CLASS						
		1½	2½	3½	4½	5½	6½	7½
Circumference (Inches)	Number	29	34	17	20	10	7	5
	Range	2-3¼	2 3/4-5	3 7/8-4 3/4	3 7/8-6¼	4½-5 3/4	4½-6¼	4 3/4-6
	Mean	2.61	3.96	4.14	5.22	5.01	5.27	5.30
Length (Inches)	Number	20	19	7	18	7	5	5
	Range	9-19	12 3/4-23½	16-25	17-26	15 1/8-23 3/4	19½-26¼	20½-28
	Mean	12.1	18.3	19.8	22.8	21.4	21.6	24.4
Points	Number	56	54	38	18	10	8	6
	Range	1-4	1-5	2-5	3-7	3-4	3-6	3-6
	Mean	2.23	3.31	3.82	4.06	3.80	4.12	4.17

Table XII: MEAN ANTLER MEASUREMENTS OF WHITE-TAILED BUCKS HARVESTED IN AREA IV DURING 1955

MEASUREMENT		AGE CLASS					
		$1\frac{1}{2}$	$2\frac{1}{2}$	$3\frac{1}{2}$	$4\frac{1}{2}$	$5\frac{1}{2}$	$6\frac{1}{2}$
Circumference (Inches)	Number	14	14	6	6		1
	Range	2-4 3/8	$3\frac{1}{4}$-5 3/8	3 3/4-5 1/8	$4\frac{1}{2}$-6		-
	Mean	3.01	3.96	4.42	5.05		5.50
Length (Inches)	Number	8	12	5	5		1
	Range	$10\frac{1}{2}$-$18\frac{1}{2}$	13-$25\frac{1}{2}$	$19\frac{1}{4}$-$24\frac{1}{4}$	$19\frac{1}{2}$-$25\frac{1}{2}$		-
	Mean	12.6	20.9	21.8	21.9		24.5
Points	Number	21	17	12	7		1
	Range	1-4	3-4	2-5	3-5		-
	Mean	2.19	3.29	3.41	3.86		4

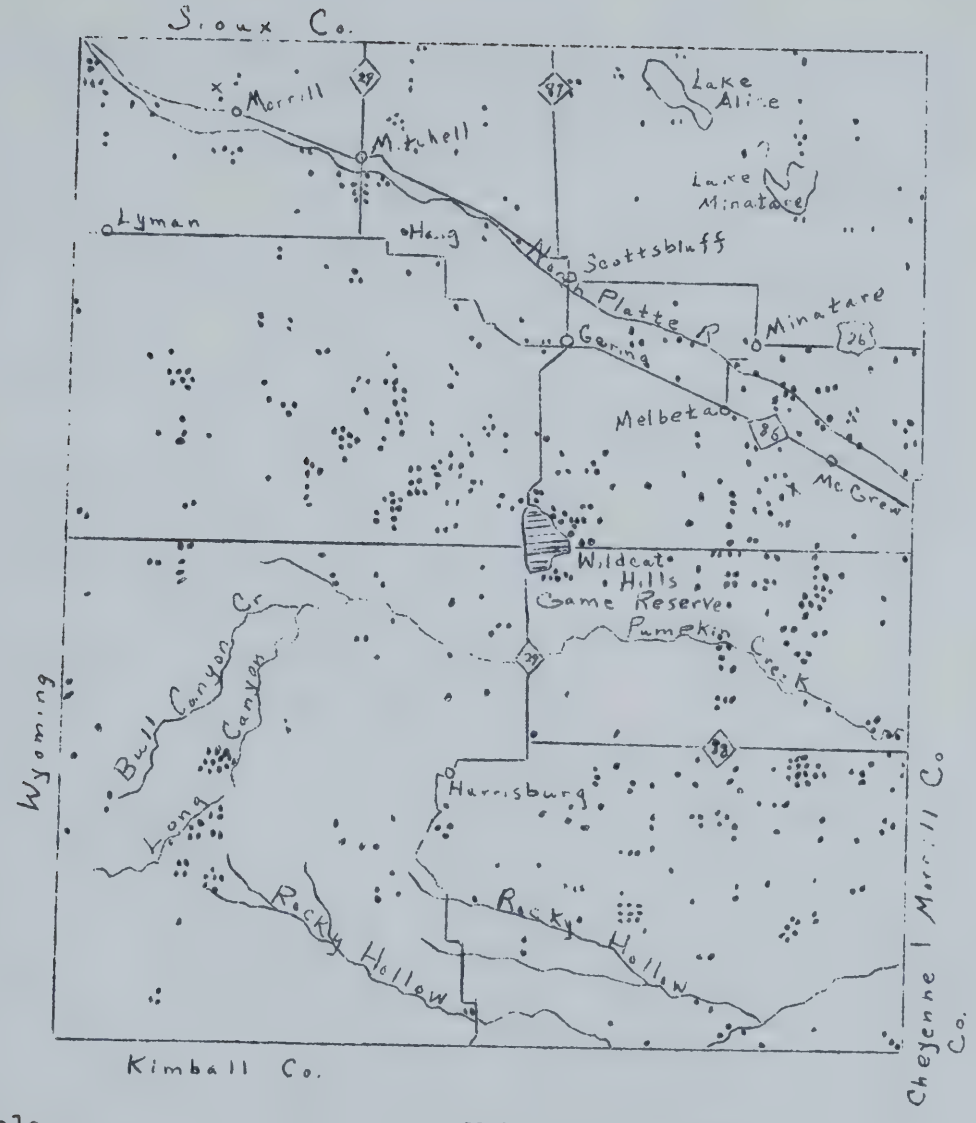


Figure 1. Location of Deer Kills During the 1955 Open Season in Scottsbluff and Banner Counties.

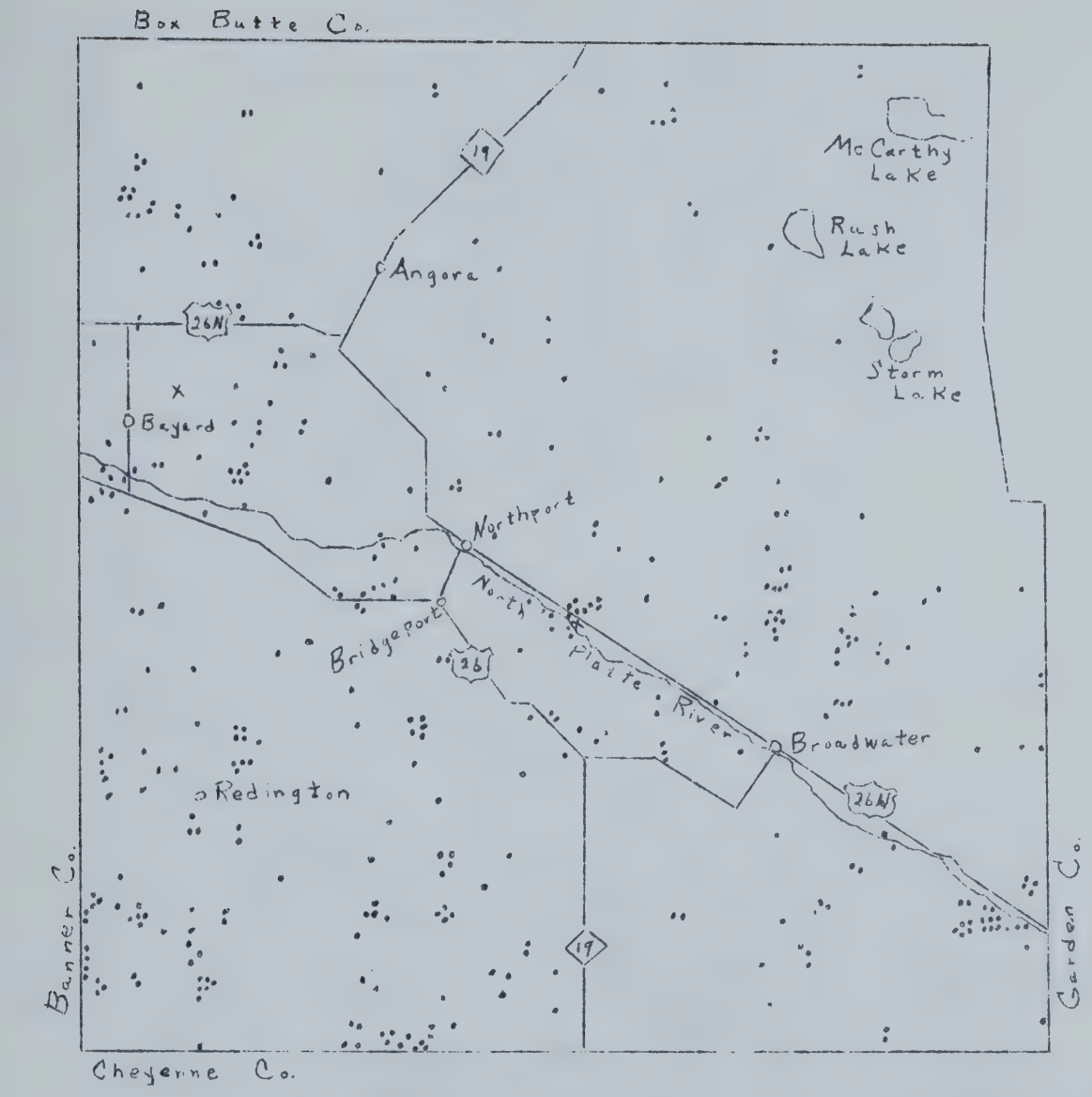


Figure 2. Location of Deer Kills During the 1955 Open Season in Morrill County

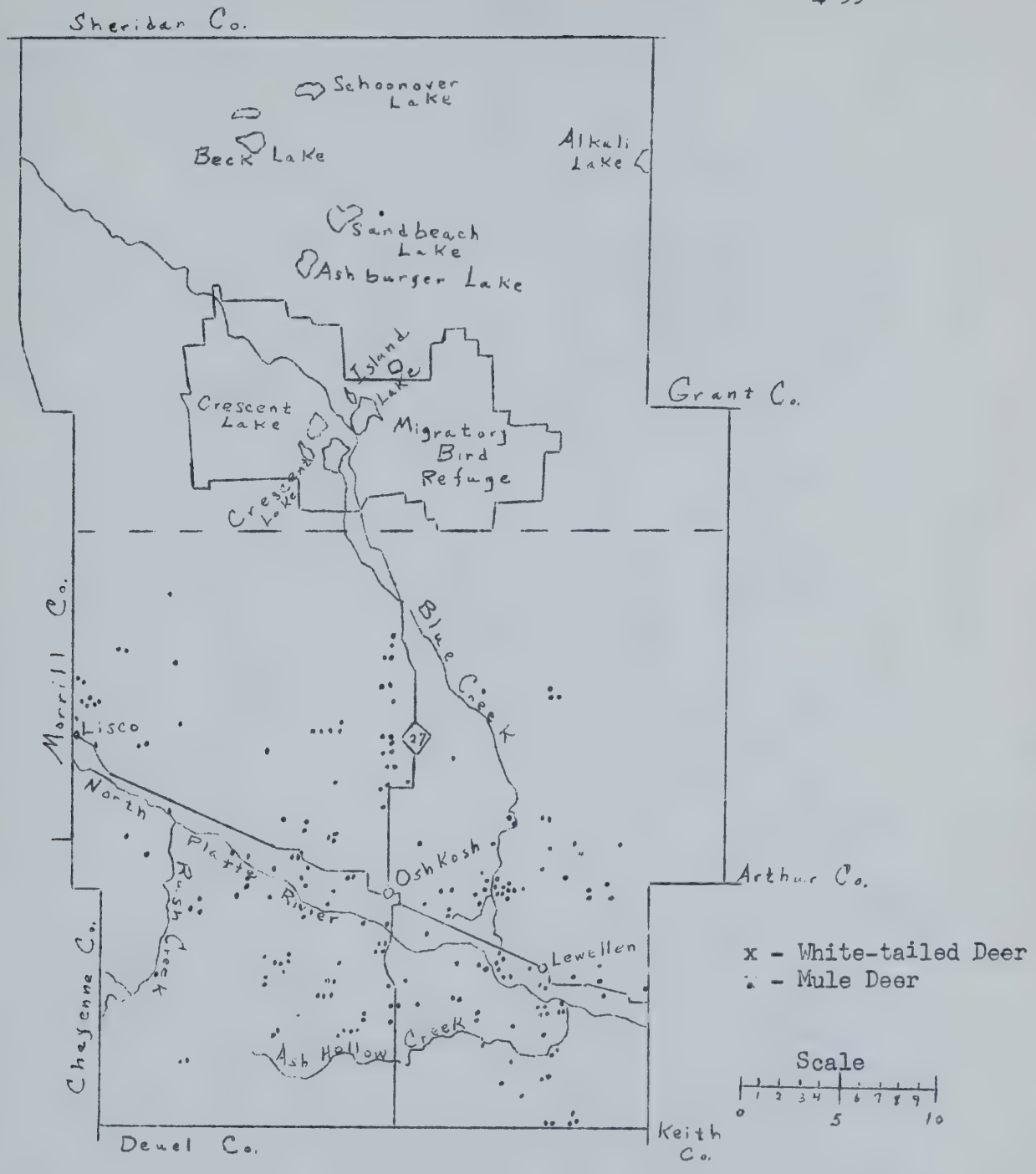


Figure 3. Location of Deer Kills During the 1955 Open Season in Garden County

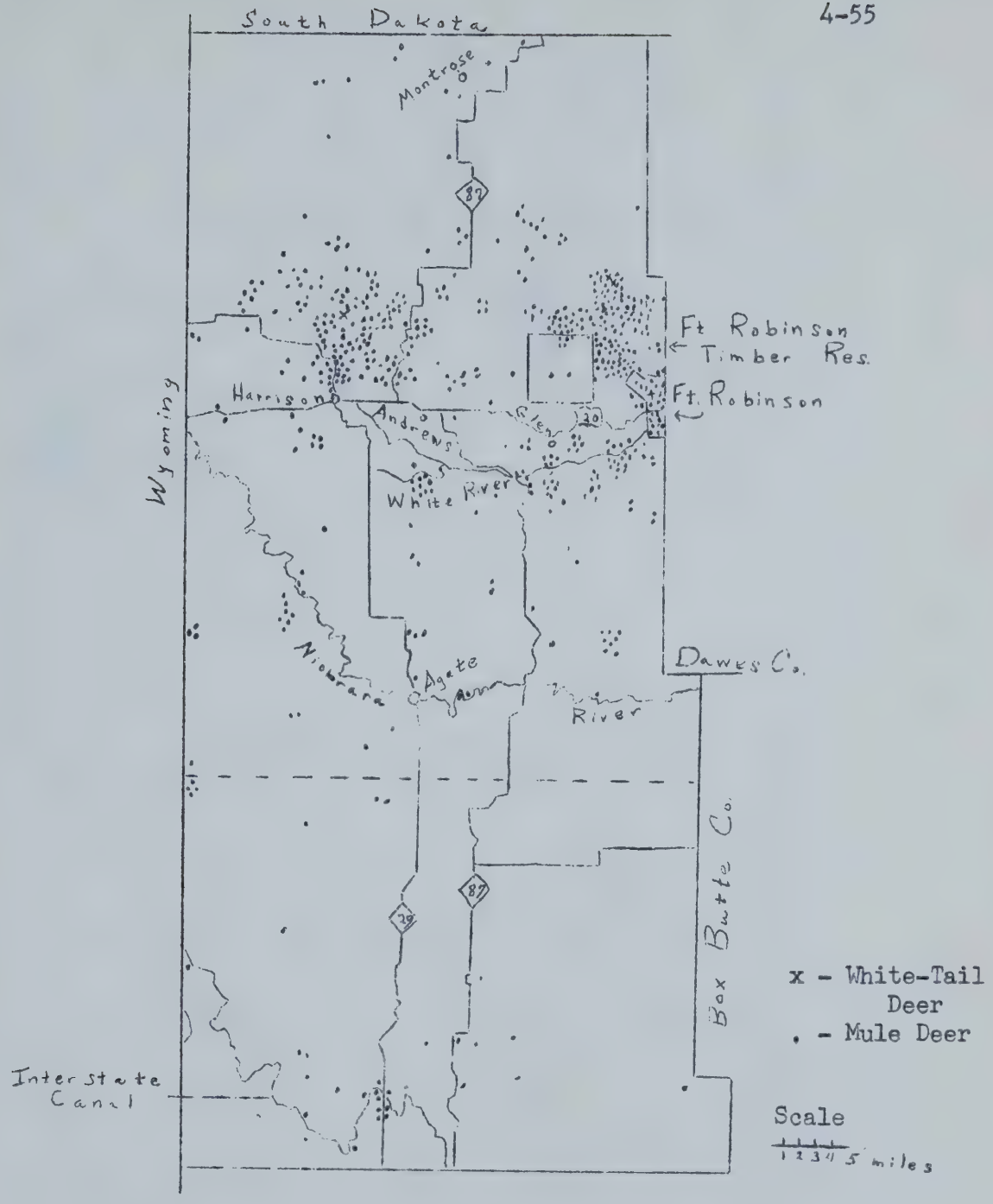


Figure 4. Location of Deer Kills During the 1955 Open Season in Sioux County

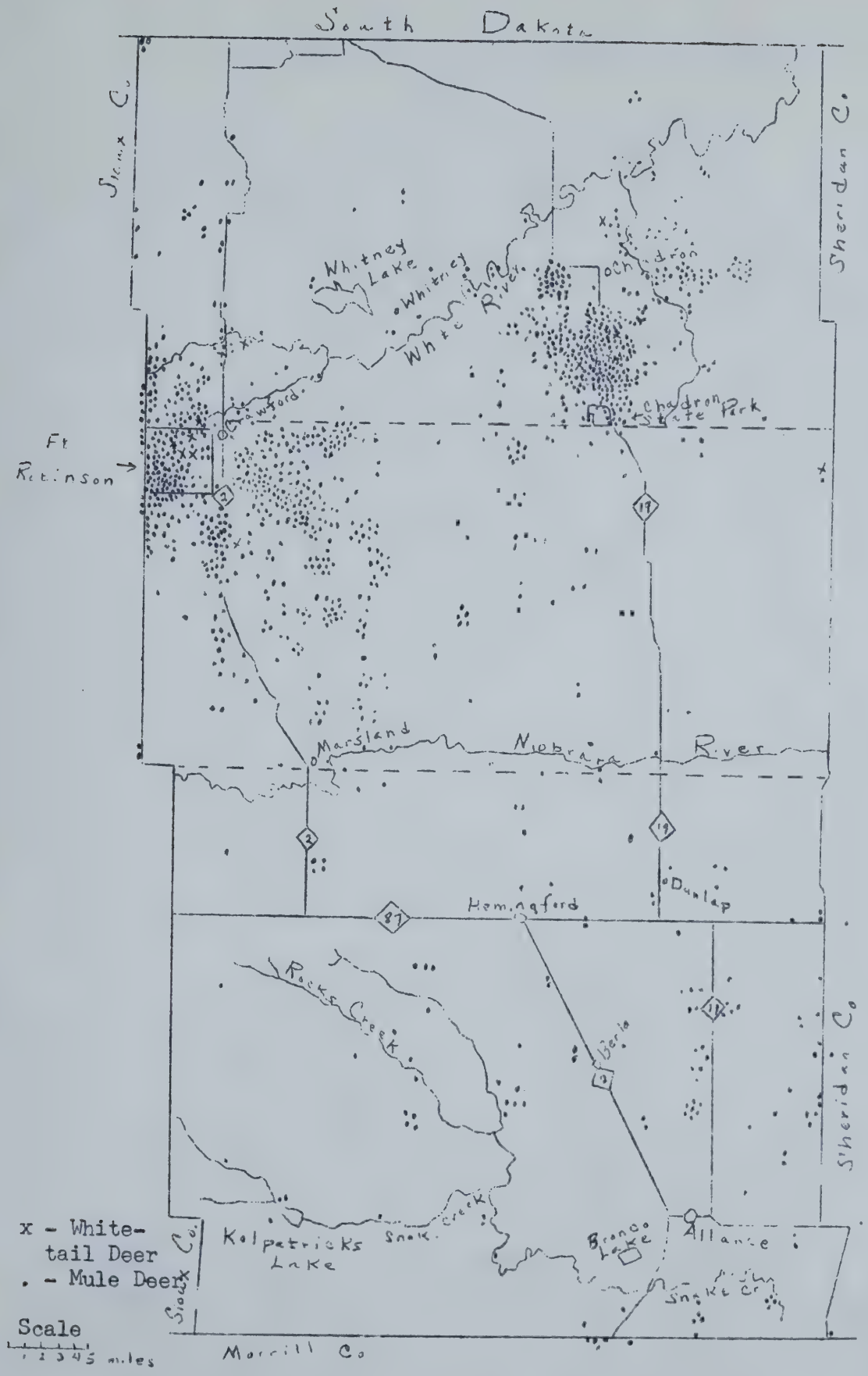


Figure 5. Location of Deer Kills During the 1955 Open Season in Box Butte and Dawes Counties

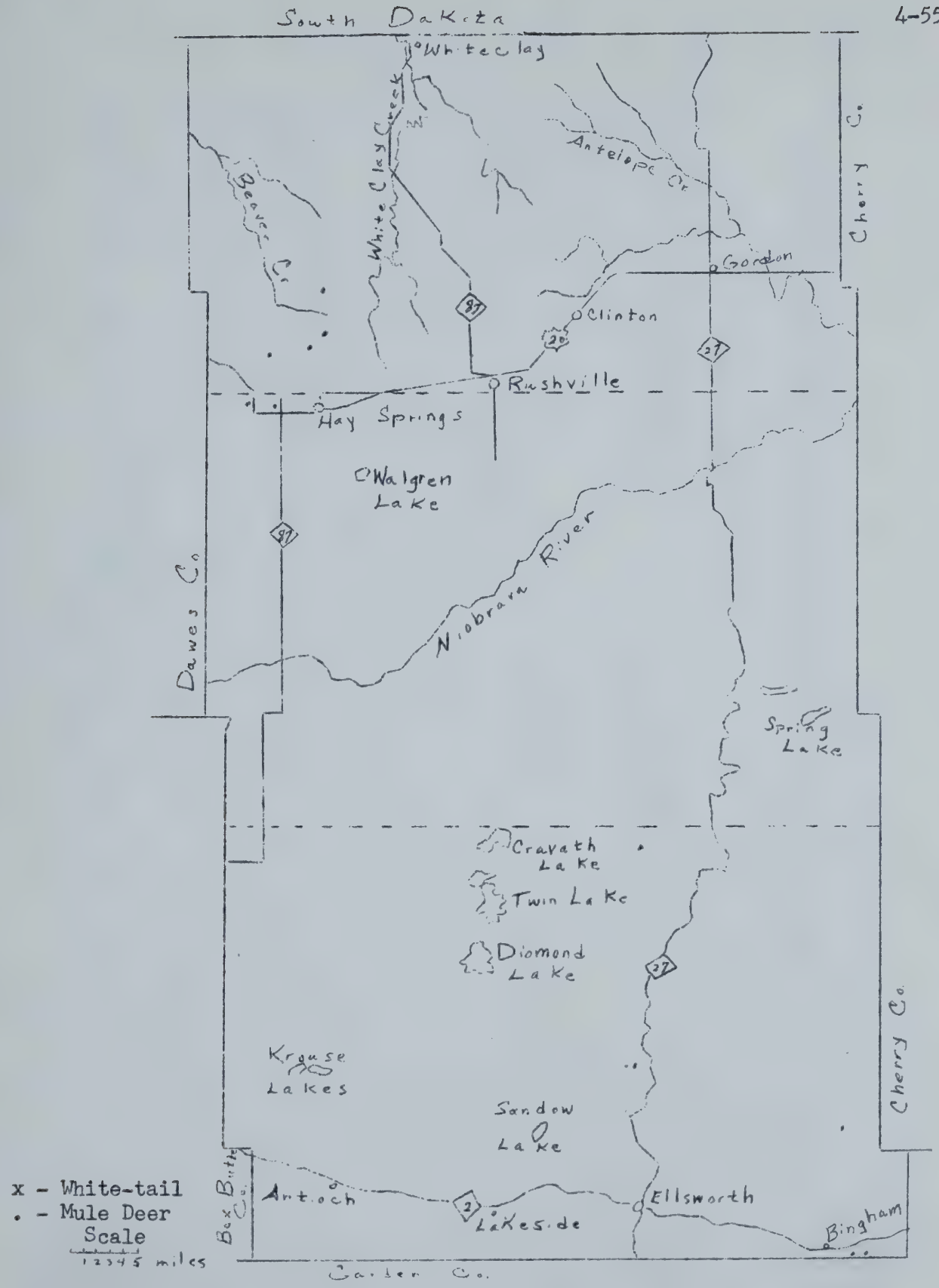


Figure 6. Location of Deer Kills During the 1955 Open Season in Sheridan County (data incomplete)

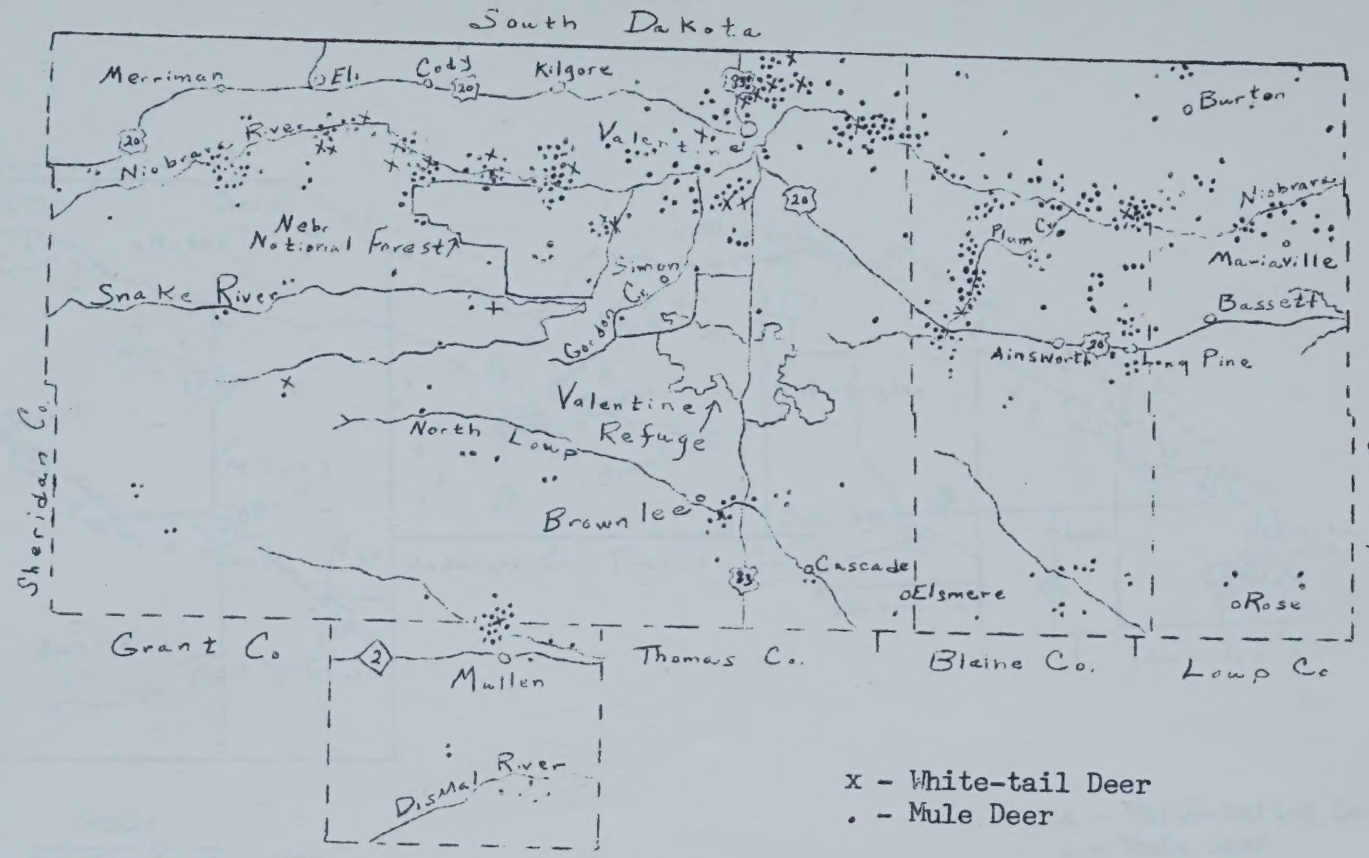
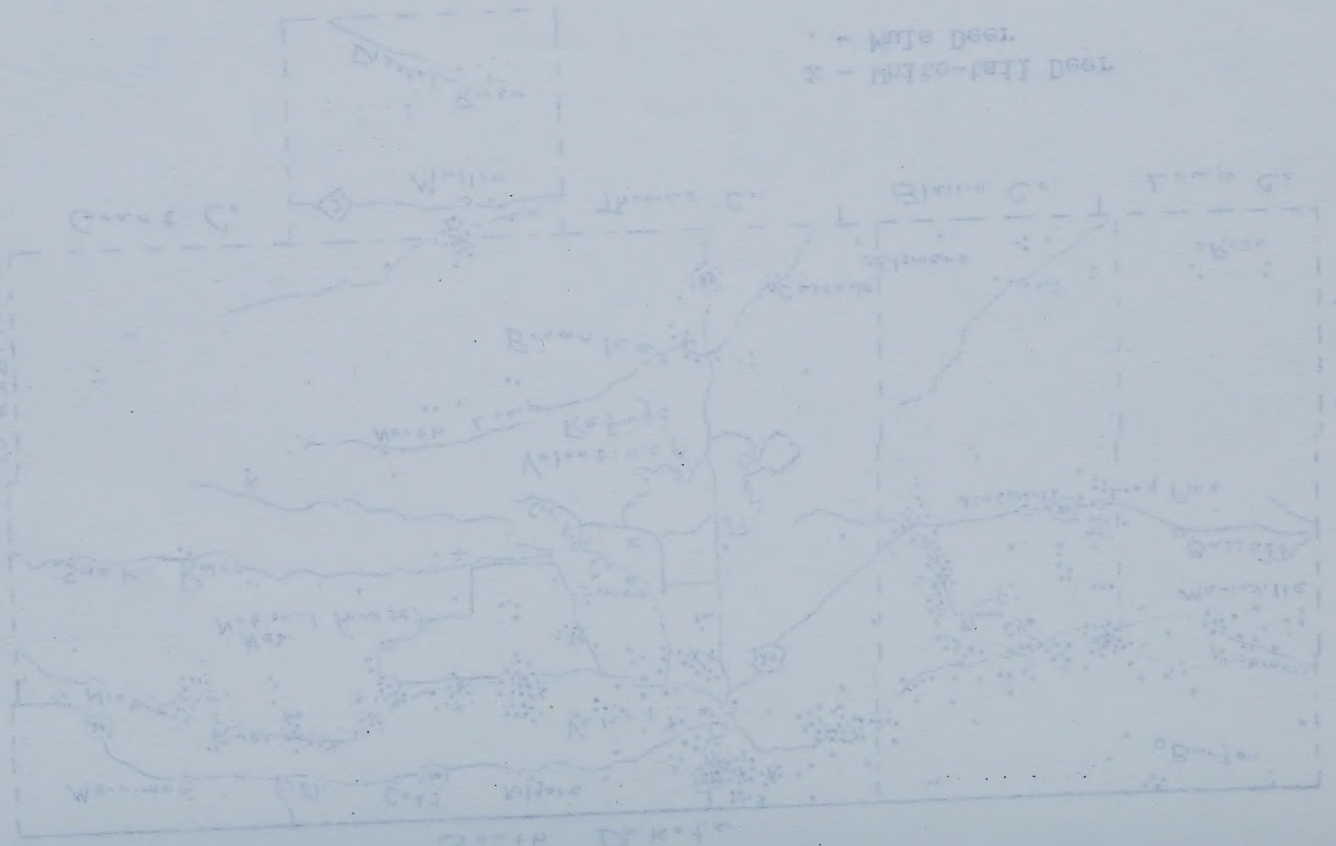


Figure 7. Location of Deer Kills During the 1955 Season in Area III.



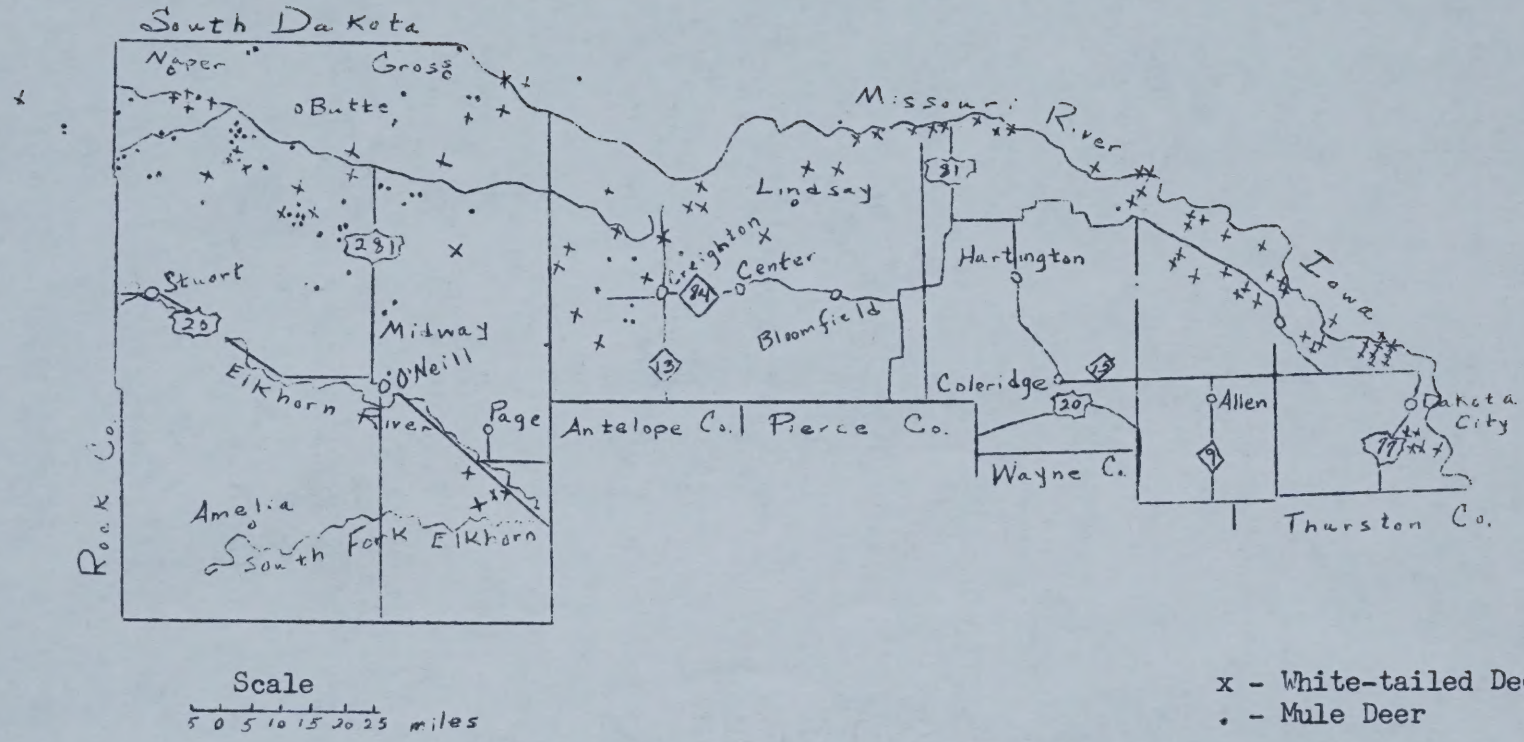


Figure 8. Location of Deer Kill During the 1955 Open Season in Area IV

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